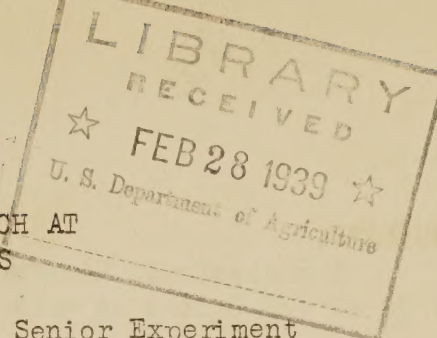


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A GLIMPSE OF HOME RESEARCH AT
STATE EXPERIMENT STATIONS



A radio interview among Sybil L. Smith, Senior Experiment Station Administrator, Office of Experiment Stations; Helen Crouch Douglass, Radio Service; and Wallace Kadderly, Chief of Radio Service, broadcast in the U. S. Department of Agriculture portion of the National Farm and Home Hour Tuesday, January 24, 1939, by NBC and a network of 100 associated radio stations.

--ooOoo--

KADDERLY:

Today we are beginning a new feature on the National Farm and Home Program -- news of home research, not here in Washington, but out in the States at the different Agricultural Experiment Stations... news of what State scientists are finding out about foods and cookery, nutrition, household equipment, clothing and other problems of the rural home. Today Sybil Smith of the Office of Experiment Stations of the Department of Agriculture has come over to give you a glimpse of some of the recent findings of the State Experiment Station laboratories. And Helen Douglass of our Radio Service is also here to sort of help me out. Miss Smith, what's the outstanding research, for the home, of the past year or so?

SMITH:

That's too hard a question, Mr. Kadderly. I couldn't choose just one from the many significant findings. But the first thing that comes to my mind is a little bone filter for drinking water developed at the Arizona Experiment Station.

KADDERLY:

A little bone filter doesn't sound so important.

SMITH:

No -- it doesn't. But this filter may save the teeth of thousands of American children.....it may even save the teeth of children in many parts of the world.

DOUGLASS:

Perhaps, Miss Smith, you'd better tell Mr. Kadderly how a bone filter can save children's teeth. I detect a question in his eye.

SMITH:

Very well, we'll anticipate the question. This filter can be connected to the kitchen faucet and it will remove fluorine from drinking water. Fluorine has already done permanent damage to the teeth of countless children. As little as one part fluorine in a million parts of water may damage the enamel of the second teeth as they are forming, yet drinking water in certain sections of this country contains 12 to 18 times that much fluorine.

DOUGLASS:

I understand, Miss Smith, that such water is found in sections of 24 of our States as well as in nearly every country in the world.

SMITH:

That's true. But in this country, children of the Southwest have this type of tooth damage most, because the fluorine is more concentrated in the soil there and goes into the water.

KADDERLY:

What's the story behind the new bone filter?

SMITH:

It goes back to the discovery that fluorine in water is the cause of mottled enamel in teeth. In 1930 despairing parents in an Arizona village asked their State Experiment Station to help them find out why all the children born and raised in that community had disfigured teeth. The problem was turned over to Dr. Margaret Carmack Smith, the Station nutrition worker, and her husband, a Station chemist. I remember so well a visit I made with them to the town that had reported the trouble. The teeth of the younger children showed chalky white patches in the enamel. As for the older children of high school age, their teeth were already pitted, and corroded, and often stained a dirty brown.

DOUGLASS:

And that's the age when children are so sensitive about their appearance,--the high-school age. Dentists can't do much to help, can they?

SMITH:

Nothing permanent. They can remove the brown stain temporarily but the teeth are so poor that they can't hold fillings and have to be replaced by false teeth before many years. But to continue with the story. After Dr. Smith found the children's diets up to standard, her husband made a special analysis of their drinking water, and found that all of it tested high in fluorine except the water in one deep artesian well. The children who drank from this well were the only ones whose teeth were not affected. As final proof, Dr. Smith produced the same damage in the teeth of rats and dogs which she raised in her laboratory with only high-fluorine water to drink.

KADDERLY:

I suppose the next step was to find some way to take the fluorine out of the water. A chemist with all sorts of expensive equipment could manage that, all right, but it must have been quite a problem to discover a simple and inexpensive home method.

SMITH:

Indeed it was! And it was a long time before they solved the problem. Fortunately, they recalled that fluorine has an affinity for bone. And bone is cheap to buy. So they developed the idea of filtering drinking water through powdered sterilized bone.

DOUGLASS:

Has the new filter been put to use yet?

SMITH:

Yes -- and the first place to install one was the school in the little town that first asked for help. Several homes, a large sanitarium, and a children's camp in Arizona are also using these filters.

KADDERLY:

That's a most interesting research story, Miss Smith. It's rather unusual, isn't it, that too much of a mineral from the soil may be harmful to health? Most nutrition research has shown that ill health often comes from too little of a mineral.

SMITH:

That's true. And here's an example of that -- too little mineral. Recent studies of farm family diets at the Mississippi, South Carolina, and Florida Stations show, for one thing, that many families have too little iron. And according to their health records, these people are apt to be anemic, especially the women and children.

DOUGLASS:

Are they anemic because they don't plan meals to include enough iron-rich food?

SMITH:

That's one cause. Southern farm diets are likely to run low in lean meat, eggs, and other iron-rich foods. But another cause may be the lack of iron and other minerals in the soil. Forage grown on such depleted soil will not keep cattle and hogs in good health, and vegetables grown on it will not keep human beings in good health. You'll be interested to know that Experiment Stations in a number of Southern States have now joined forces to raise and analyze two everyday vegetables in southern diets -- turnip greens and black-eyed peas. They want to know how vegetables grown on different soils differ in the minerals necessary to health.

KADDERLY:

Let's see now. We've had a glimpse of some of the research in foods and nutrition. What about other home interests?

SMITH:

Well, in the Northeast a number of States have combined to study the wearing quality of fabrics. Homemakers in these States are sending in samples of new goods which they've been making into dresses. Workers at the Pennsylvania Station test these materials and predict the service they will give. And the women keep a record of how many times each dress is washed or cleaned and how it wears. And when the dress is worn out, it goes to the laboratory for inspection.

DOUGLASS:

What fabrics have the women sent in so far?

SMITH:

Out of a total of nearly 600 more than 200 were cotton, nearly as many were rayon, and the rest were silk or wool or mixtures, which gives an idea of the typical farm homemaker's wardrobe.

KADDERLY:

How about research on home equipment?

SMITH:

I'm saving all that for a later report.

KADDERLY:

We'll look forward to it, Miss Smith. From what you've told us today I should say that the experiment stations are doing their bit toward "Better Eating, Better Health, and Better Living" for American farm people.

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